

§ 75.1433

measured at least once in every third interval of active length and the measurements averaged to establish a baseline for subsequent measurements. A record of the measurements and the date shall be made by the person taking the measurements. This record shall be retained until the rope is retired from service.

[48 FR 53239, Nov. 25, 1983, as amended at 60 FR 33723, June 29, 1995]

§ 75.1433 Examinations.

(a) At least once every fourteen calendar days, each wire rope in service shall be visually examined along its entire active length for visible structural damage, corrosion, and improper lubrication or dressing. In addition, visual examination for wear and broken wires shall be made at stress points, including the area near attachments, where the rope rests on sheaves, where the rope leaves the drum, at drum crossovers, and at change-of-layer regions. When any visible condition that results in a reduction of rope strength is present, the affected portion of the rope shall be examined on a daily basis.

(b) Before any person is hoisted with a newly installed wire rope or any wire rope that has not been examined in the previous fourteen calendar days, the wire rope shall be examined in accordance with paragraph (a) of this section.

(c) At least once every six months, nondestructive tests shall be conducted of the active length of the rope, or rope diameter measurements shall be made—

- (1) Wherever wear is evident;
- (2) Where the hoist rope rests on sheaves at regular stopping points;
- (3) Where the hoist rope leaves the drum at regular stopping points; and
- (4) At drum crossover and change-of-layer regions.

(d) At the completion of each examination required by paragraph (a) of this section, the person making the examination shall certify, by signature and date, that the examination has been made. If any condition listed in paragraph (a) of this standard is present, the person conducting the examination shall make a record of the condition and the date. Certifications and records of examinations shall be retained for one year.

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(e) The person making the measurements or nondestructive tests as required by paragraph (c) of this section shall record the measurements or test results and the date. This record shall be retained until the rope is retired from service.

[48 FR 53239, Nov. 25, 1983, as amended at 60 FR 33723, June 29, 1995]

§ 75.1434 Retirement criteria.

Unless damage or deterioration is removed by cutoff, wire ropes shall be removed from service when any of the following conditions occurs:

(a) The number of broken wires within a rope lay length, excluding filler wires, exceeds either—

(1) Five percent of the total number of wires; or

(2) Fifteen percent of the total number of wires within any strand;

(b) On a regular lay rope, more than one broken wire in the valley between strands in one rope lay length;

(c) A loss of more than one-third of the original diameter of the outer wires;

(d) Rope deterioration from corrosion;

(e) Distortion of the rope structure;

(f) Heat damage from any source;

(g) Diameter reduction due to wear that exceeds six percent of the baseline diameter measurement; or

(h) Loss of more than ten percent of rope strength as determined by nondestructive testing.

§ 75.1435 Load end attachments.

(a) Wire rope shall be attached to the load by a method that develops at least 80 percent of the nominal strength of the rope.

(b) Except for terminations where use of other materials is a design feature, zinc (spelter) shall be used for socketing wire ropes. Design feature means either the manufacturer's original design or a design approved by a registered professional engineer.

(c) Load end attachment methods using splices are prohibited.

§ 75.1436 Drum end attachment.

(a) For drum end attachment, wire rope shall be attached—

(1) Securely by clips after making one full turn around the drum spoke;

(2) Securely by clips after making one full turn around the shaft, if the drum is fixed to the shaft; or

(3) By properly assembled anchor bolts, clamps, or wedges, provided that the attachment is a design feature of the hoist drum. Design feature means either the manufacturer's original design or a design approved by a registered professional engineer.

(b) A minimum of three full turns of wire rope shall be on the drum when the rope is extended to its maximum working length.

§ 75.1437 End attachment retermination.

Damaged or deteriorated wire rope shall be removed by cutoff and the rope reterminated where there is—

(a) More than one broken wire at an attachment;

(b) Improper installation of an attachment;

(c) Slippage at an attachment; or

(d) Evidence of deterioration from corrosion at an attachment.

§ 75.1438 End attachment replacement.

Wire rope attachments shall be replaced when cracked, deformed, or excessively worn.

Subpart P—Mine Emergencies

§ 75.1500 [Reserved]

§ 75.1501 Emergency evacuations.

(a) For each shift that miners work underground, there shall be in attendance a responsible person designated by the mine operator to take charge during mine emergencies involving a fire, explosion, or gas or water inundation.

(1) The responsible person shall have current knowledge of the assigned location and expected movements of miners underground, the operation of the mine ventilation system, the locations of the mine escapeways and refuge alternatives, the mine communications system, any mine monitoring system if used, locations of firefighting equipment, the mine's Emergency Response Plan, the Mine Rescue Notification Plan, and the Mine Emergency Evacuation and Firefighting Program of Instruction.

(2) The responsible person shall be trained annually in a course of instruction in mine emergency response, as prescribed by MSHA's Office of Educational Policy and Development. The course will include topics such as the following:

(i) Organizing a command center;

(ii) Coordinating firefighting personnel;

(iii) Deploying firefighting equipment;

(iv) Coordinating mine rescue personnel;

(v) Establishing fresh air base;

(vi) Deploying mine rescue teams;

(vii) Providing for mine gas sampling and analysis;

(viii) Establishing security;

(ix) Initiating an emergency mine evacuation;

(x) Contacting emergency personnel; and

(xi) Communicating appropriate information related to the emergency.

(3) The operator shall certify by signature and date after each responsible person has completed the training and keep the certification at the mine for 1 year.

(b) The responsible person shall initiate and conduct an immediate mine evacuation when there is a mine emergency which presents an imminent danger to miners due to fire or explosion or gas or water inundation. Only properly trained and equipped persons essential to respond to the mine emergency may remain underground.

(c) The mine operator shall instruct all miners of the identity of the responsible person designated by the operator for their workshift. The mine operator shall instruct miners of any change in the identity of the responsible person before the start of their workshift.

(d) Nothing in this section shall be construed to restrict the ability of other persons in the mine to warn of an imminent danger which warrants evacuation.

[68 FR 53049, Sept. 9, 2003, as amended at 73 FR 7655, Feb. 8, 2008; 73 FR 80697, Dec. 31, 2008]